The
AUSTRALIAN MODEL RAILWAY ASSOCIATION
"JOURNAL"

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ANNUAL REPORT 1954-55.

During the past months it has been my privilege to be the President of the A.M.R.A and as such, it gives me pleasure to present on behalf of the Committee of Management, the Annual Report. Owing to the pressure of work involved in the recent All-Models Exhibition, this report has been regrettably delayed.

When the year began, we had several vacancies in the Committee, but due to the whole-hearted efforts of the Office-bearers and Committee-men, I feel that the year has been a success.

As previously reported, your Association with the support of all model railway clubs and societies throughout Australia, submitted evidence in an effort to prevent a higher tarriff being imposed on model railway equipment. As yet, we have not been advised of any decision.

As the financial position was steadily gaining strength it became possible to design and procure the "Wheel on Rail" badge. Whilst these are in popular demand, the cost of producing same will soon be met, and future sales will result in revenue for the Association.

Throughout the year, the Association has received many requests to display models at exhibitions and shows, organised for charity. Unfortunately, owing to the amount of work involved, members found it impossible to take advantage of all these offers. However, with the loan of our "All-Models Exhibition" stand, we were able to present a display at the "Electrical Industries Fair", which gained considerable publicity for the A.M.R.A.

So far, members have only received draft copies of the A.M.R.A. Standards; the delay in submitting the final data is due to the checking necessary and the research in the narrow gauge phase of model railroading. In October '54, Dr. S. Suggitt of ueensland was appointed chairman of the Standards Committee, and through the combined efforts of both he and the Standards Committee we are now almost ready for the publication of final standards and Data sheets. Co-operation in preparing these standards has been given by the following Model Railway organisations: British Railway Modelling Standards Bureau, the National Model Railroad Association, N.E.M. (Normes for European Modellers) and the New Zealand Model Railway Association. The above mentioned organisations have been given honorary membership in appreciation. The Johannesberg Society of Model Engineers have also been approached in this matter. Preparation of the standards is a very important step in the progress of the Association and entails a great amount of work and time to ensure that the final information is correct. It is gratifying to note that the N.Z.M.R.A. have adopted our standards for 3'6" gauge.

In November, the President, G. Lormer resigned to accept a country appointment. The Committee, whilst being pleased to hear of his promotion were very sorry to lose his valuable service, and I would like to take this opportunity to extend our appreciation for past work and to wish him well in the future.

The cost of printing the quarterly Journal has caused some concern, but due to the assistance of M. Levy and H. Tisher an electric Gestetner was purchased for the duplications of same. This now means that with the help of members our publications can be printed for the cost of paper and ink only.

Early in '55, four members expressed their willingness to assist on the Management Committee and were duly appointed to the vacant positions.

Following a suggestion by the Victorian Branch, that the subscriptions be increased, a ballot was held which resulted in the joining fee being abolished and the new rate of 17/6 per year for senior members and 10/- in the case of juniors being inaugurated.

The year closed with the preparations for the "All-Models Exhibition which was held in Melbourne.

At the 4th of June '55, the financial membership stood at 170, and the Committee elected is as follows;

President:	Alan Houston
Vice President:	Phil A'Vard
Secretary:	Tim Dunlop.
Asst. Secretary:	Graham Watsford
Treasurer:	Mayer Levy
Asst. Treasurer:	Bob Lamble
Committee Men:	Herbert Tisher
	Claude Henderson
	Dick Gutteridge
	Cliff Richardson (Prof.
	David Bennett Representatives.)
Editor:	Jack May.

In addition, to the above 6ffice bearers, the following sub-committees have been appointed.

Publishing Sub-Com.:E. Dean, R. Sringer, G. Stringer, I. Stringer, E. Grimes.

Standards Committee:Dr. Suggitt (Chairman) (Q), E. Snowden (Q), N. Reade (NSW), D. Knox (V), L. Aa (SA)

Inspection Committee: Dr. A. Harold (Q), E. Snowden (Q), D. Bennett (V).

As we commence the new term with a complete and enthusiastic Committee, I feel confident that this coming year will see a more comprehensive service being given to our members, and at the same time ensuring that the A.M.R.A. plays its part in Model Railroading in Australia.

Finally, my sincere thanks to all members of the

Committee for their whole-hearted co-operation through out the year, and particularly to our Secretart Tim Dunlop, Treasurer Mayer Levy, and to all those un-named who have assisted the Association throughout the past months.

Melbourne 21-10-55. President.

THE JUNK BOX. Part 1.

By IAN G. WEICKHARDT.

Many people will say, "Coming from Ian Weickhardt, it's sure to be junk." But even that precision worker Rick Richardson will take a gander at this and wonder how certain people told me all the little hints and short-cuts I will be putting into print. The first concerns bicycle spokes and the little plated brass nipples that go with them. "Luverly 'and rails them thar bike spokes". Suitably shaped nipples mentioned before can bring forth whistles, snifter valves, whatsit valves and of course the indispensable pop valves. They only cost about eightpence each.

Handrail knobs ! 26 gauge (stripped bell wire is OK.) copper wire wrapped around the handrail, soldered and shaped with a file is dead scale (no split cotton pins, thanks), when forced into the wall of the loco.

Cleaning Files : I swiped a wire brush to clean some brass and solder out of my files. Bits and Snippets of Wire: when making air tanks, funnels, unusual valves and sundry other fittings where a band of some sort is needed, I place wire of appropiate size in position. Beware fingers ! with the soldering iron when sweating the bits and pieces together. Also be careful when soldering the fittings onto the body or structure concerned; they have a nasty habit of melting apart; treat 'em as a white metal casting only more so. Next Journal I hope to whiz in a few more ideas and doovers, along with the whatsits I discover from time to time. And dont forget; when you find pieces of scrap metal tube, sheet, including a jam tin or two, grab 'em; and when cutting up sheet metal smaller than 14 gauge use a piercing saw ! They're the only device that wont buckle or stnain the metal while cutting.

From "THE SCRAP HEAP"
"RAILWAY GAZETTE." of Dec. 25th. '53.

A Footplate Trip on the Moonshine Special.

This month we are privileged to bring you details of a remarkable performance recorded by that well known authority on train running, Professor Allen J. Cecil A.M.I.L.E. (in sixty seconds flat). The professor was recently responsible for the introduction of his latest invention - the Driver Guard - on British Railways. This is a small umbrella which automatically pops out of the driver's cabin and over the driver's head when he pokes out his head at a station on a wet day. At the moment this refinement is only fitted to electric stock, but many drivers have been quite carried away with it already.

However, to get down to details of the Professor's run. Unfortunately, he cannot call to mind the station he started from, but he remembers it was a big one with a glass roof - a masterpiece of description which just about covers all the termini in London. He was explicit though, concerning the make-up of the train, which was hauled by No. 999, a rebuilt Howler and fitted with Ross "Pip" valves, which, as their name implies give off only a small pip in place of the usual pop. Further he reports that the engine was fitted with H & C throughout, although, as he laughingly remarked "he was very h in front, but very very C in the rear". The load consisted entirely of axlefitted stock, and the gross weight was considerably more than the tare.

Nevertheless, the engine got away to a good start, despite severe initial slipping, caused by the Professor knocking his elbow against the regulator. Speed rose gradually as Driver Spright and Fireman Slack ("Nutty") of Old Garden Shed took turns to keep the Professor seated, and by the time we had reached the first p.w. check, our first 60 was recorded. A surprising figure, this, at this point, although nobody was more surprised than the p.w. gang concerned, but apart from observing two flying shovels to westward, and a slight attack of hammerblow, the Professor noted nothing untoward. But this was only the start, and many other surprising things were in store. Speed fell over the next stretch, but we picked it up again and then came the electrifying dash at Barclays Bank a formidable obstacle that brought the cut-off down to 331/3% less the usual discount for valve travel. This spurt was short lived, however, as we found the going rather heavy, but we soon got No. 999 back on the rails again. The load was now increased by 10 tons, due to the adhesion of that amount of clay to the bufferbeam, but we were through Bugby on even time.

Soon after this, the Professor, who was under the impression he was riding on a Great Western Saint, became involved in a discussion with the fireman as to the relative merits of Mr. Churchyard and Mr. Grisley as designers. But the fireman refused to be Bulleid, and the driver just managed to prevent his mate using the shovel to finish the argument. At this stage, to everyone's consternation, we found we had omitted to take on water at the troughs during the melee, and Spright decided to stop at the next station only to find that no water column was located there. With great presence of mind, the driver said "Fill 'er up with tea from the Refreshment Room, mate," and despite the protests of the manageress, this was accomplished with a net loss of only 30 minutes to the engine, and about 30 s. short in the till. The Professor said afterwards that he couldn't recall a locomotive running on tea in all his long experience but I understand from the shed foreman that it was subsequently a toss-up whether No. 999 would have to be reboilered owing to corrosion of the tubes, or would be retained at Crewe as a super tea-urn.

Lancashire was noted on either side of us, but nothing more of note occurred until we came to the highlight of the run - the ascent of the dreaded Mishap Summit. Fortunately we changed crews about this time, a hazardous feat with a non corridor tender, as it involved the driver and fireman crawling in single file over the coal in the tender and getting into the train that way. The oncoming crew were in worse shape and had the greatest difficulty in using their knees at all for some time after taking over. Their performance over this rough stretch was remarkable.

But now the formidable bank was in sight, although the view was partially obscured by a covey of clerical gentlemen with cameras, who seemed to be everywhere (Mighty Leica Rose" as the Professor remarked). In fact, one daring soul was even laying flat between the up and down roads endeavouring to get a rail level shot, but instead the fireman, who obviously wasn't camera conscious, gave him a short burst from the ejector pipes, and he was last seen making a very fast run up the bank, without assistance. It is a pity no record was kept of his time, although he did have the advantage of being superheated.

However, we finally breasted the Summit, and the Professor said that he had never witnessed a more thrilling climb, but I am not quite sure whether he was referring to the crew taking over, or to the performance of the engine, but as he was under the impression that it was Dainton Bank, it doesn't really matter. Speed rose, as it usually does down hill, and to the consternation of the Professor, the driver chose this particular time to turn around and say "Look - no hands", which, to put it mildly is no way for a top link man to behave.

The rest of this remarkable run must go without comment, as the Professor alighted at a signal check somewhere in the Scottish moors under the impression the train was running into Plymouth (these Great Western fans take some convincing). So the final figures can only be estimated, although the net time would have been in the region of quite a few hours, or slightly faster without the net.

My best thanks are due to those officials of British Railways, who have checked over details of this run, and denied all knowledge of it.

S.L.B.
In the "Railway Gazette".

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TRAIN CONTROL ON THE OLD SANDY PACIFIC.

By David Gross.

When the operating crews of the S.P.R. became skilled at time-table operation, I decided to install a system of train control based on the V.R. system.

The best place for the controller to sit is somewhere where he cannot see what is going on, so I cleared a space in an adjoining room, and set up a desk there.

I purchased some equipment such as microphones, transformers, etc. to rig up the intercom system. There are 4 mikes; 1 at each major station and 1 at the controller's desk. The mikes at the stations are connected to the controller's headphones and the controller's mike is connected to an amplifying unit in the layout room.

The next problem was that of obtaining suitable graph paper, but Ron Mennie overcame that obstacle by drawing a master sheet from which prints are run off either by dyeline or by the silk screen process.
With all the necessary equipment installed, next came the big moment - that of having a bash at train control. To make the job reasonably easy, a time-table was prepared, by medium of the graph, with fewer trains than previously scheduled. I might add at this juncture that our "scale time clock" ran ten times as fast as normal time and allows no time to fool around when running a time-table.

We decided upon a 6 hour schedule which allows us to run twice through in an evening session and gives two chaps a go at control. In that time we usually handle about 16 to 18 trains although only about 12 are scheduled, the rest being extras, which makes the controller's job more interesting as he has to fit them in between the normal trains.

The first time you are "on" train control, you are faced with something which cannot be taught, to any great degree, and about which you just have to find out for yourself. There is an air of tension when thinking about the job ahead as you are hoping that you won't allow any collisions to occur or get so bamboozled that you can't sort things out. There you are, stuck out there at a desk by yourself with the graph in front of you, pencil in hand, and listening to the jargon that comes via the headphones, whilst you are trying to plan the next move and issue instructions as to operating moves.

If all trains run on time, the job is reasonably easy, as it is just a matter of plotting the trains and all crossings etc., will work themselves out, but if, and usually, they don't stay on time, *your* job is on, and you scratch the old empty vessel for some clues. You just don't know whether train control is for you to control the trains or for the trains to control you, and at times you would swap the job at the slightest excuse; but when it is all over and you have straightened things out, you realise that you have been initiated to a new and highly responsible branch of the hobby.

It is necessary for a controller to be fully conversant with the layout of the entire system, and the limitations of the method of the electrical controls. Also the factors concerning train rights, such as class, direction, etc., have to be constantly in mind when dealing with late and/or extra trains.

It was found that time-tables are only made satisfactory after they have been thoroughly tested and corrected as a result of trial. It is surprising the time it takes to shunt a train at a station and it is easy to under-estimate such movements when planning a time-table, but when all is achieved one could almost apply in confidence for a job as a time and motion study expert.

In conclusion, I would say that to have your own train control is to have a very interesting and absorbing section of the hobby, and when operating you are no longer "playing trains" but seriously managing a transport system.

This layout is now set up at Russ Blakes, in West Brunswick, whilst Dave devotes his full time to the establishment of his new milk-bar. - Ed.

The Present development of Model Rail-Roading in Germany

by Marcel Grun, Dipl. Eng., Superintendent of
the German Federation Railways.

Translated by H.E. Tisher.

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The early beginnings of Model-railways go back perhaps to the year 1850. About 30 years later the Toy-Manufacturers situated around Nuremberg came into the field, but it was not until 1900 when this new Industry developed through the British Market.

Model Railroad-Clubs similar to those in Great Britain and U.S. did not exist until 1925. The oldest Clubs were in Berlin, Hamburg and Wiesbaden. Until this time the Manufacturers were purely interested in the marketing of Tinplate goods. The Clubs, however, developed with the aim of serious modelling without the strings attached to the commercial field. The gauges were "O" and larger. The driving means were either steam or clockwork. But with the progress of electricity and especially Relays, Model-Railroading made greater progress than ever. At the same time around 1930 the H.O. gauge came into existence. The political Development in Germany prevented any further establishing of Clubs.

After the war there was little demand for hobby activities connected with "playing war" and this led to the more peaceful revival of Model-Railroading, and numerous Clubs came into being, and at present there are about 60 Clubs in Germany.

The more serious-minded Modellers established in 1949 the parent-organization of the German Model-Railroad-Clubs with head-quarters in Frankfurt a/Main. The principles of the Constitution are the co-operation of all existing Clubs in Germany, that are endeavouring to model railroads without losing their individualities. This Organization wants to develop the understanding and the running of the latest improvements of the German Federation Railways. For this reason the Members and Clubs regard their work as a serious hobby and not as play, as it requires considerable skill and technical understanding which are far beyond any play. The Establishment of this Organization was by six Clubs only, but has grown to 38 individual Clubs. The Committee is formed by its two Presidents and six Executive members, of which the foreign Department and the Technical Department are specially mentioned. The foreign Correspondent is in Contact with twelve countries. For example he participated at the establishing of the French Model-Railroad-Club in Lyons (France). The Technical expert made it his special task to create Norms for all sections of Model-Railroads. After the first drafts of standards were published a Congress held in September last year in Germany established a Committee to co-operate and establish a complete set of standards which will be adopted by seven European nations.

Of special interest were the details by Mr. Moeller from Berlin regarding the methods at which standards should be adopted. It was resolved to develop new standards, submit these to various countries and to discuss and adopt them at this year's Annual Meeting to be held in Munich (Germany) on the 12th. September.

From the activities of the individual Clubs special mention is given to the better known Club-Layouts: The Model-Railway-Club in Wuppertal has a very nice layout in a large Express-Passenger-Carriage. The total width of all the compartments has been used for the Layout with the Corridor (Passage) being kept for "sight-seeing". At one end the total Power-Pack is arranged in sections, with the whole of the layout in terraced tiers from end to end of the Carriage.

The Model-Railroad-Club in Stuttgart (Germany) had at its last Garden-Exhibition an outdoor-Layout in "O"-Gauge. The whole Layout was arranged in a Bomb-Crater.

The Model-Railroad-Club in Kassel erected a detachable layout of eight Units, when put together measuring 50'long by 7' wide, to be demonstrated at exhibitions. It represents a complete Replica of approximately 12 miles long Section of the German Federation-Railway near Kassel in which for the first time an automatic Rail-change-arrangement is demonstrated.

This Section of the German Federation-Railway and therefore its model have become known by the "flying overtaking" of trains in open block-Sections. (P.S. Must be some super-duper outfit that I don't understand. HET.) This model was most admired on the 30th International Fair in Milan (Italy) in 1952.

For the German Exhibition of Transport in Munich in 1953, the Model-Railroad-Club in Kassel has built a Model about 17' x 5' with the topic: How to safeguard Level-Crossings. All types of foolproof, mechanical safeguards were shown. The trains and Road-Vehicles could be moved by the general public.

The Model-Railway-Club in Munich in conjunction with the Railway-Commission of Munich erected a Model-Display in O-Gauge 200 feet long x 30' in width. On one side it was landscaped with high mountains and at the end it has a modern shunting yard, whilst a medium-sized town of the middle-ages was contrasting a modern industrial set-up on its opposite end.

A Report of the German Model-Railways would not be complete without mentioning the current literature available. Ready in 1925 was a first-rate and still leading publication by G. Reder: "The Model Railway". It has not been succeeded by any equal publication so far. Lately a very good book by Wollmann was published and a series of Model-Railways short books is just off the press. Besides, a great number of small publications are available, partly sponsored by the manufacturing-industry. Four regular magazines, one published in the Sowjet-Zone, are keeping the Model-Railway-Fan abreast with new developments, building rolling stock, tracks, layouts, Prototypes etc., in brief, these magazines keep you "on the run".

THE AUSTRALIAN ASSOCIATION OF MODEL SOCIETIES.

1955 ALL MODELS EXHIBITION AND TRADE FAIR. by Jack May.

On Sat. August 27th at 12 noon, the Hon. Sir Edmund Herring officially opened the 1955 All Models Exhibition and Trade Fair at the Exhibition Building, Melbourne. The Exhibition had however, been open to the trade during the day, and the public during the evenings from the 25th August, and before the display finally closed on Sep. 3rd , over 95,000 people had passed through the doors. This figure excluded complimentary passes issued to Stand operators and the trade

Model Societies exhibiting were:

Victorian Ship Modelling Society
Model Power Boat Society
Victorian Model Aeronautical Association
Surrey Hills Live Steamers
Victorian Model Race Car Club
Wireless Institute of Australia (Vic.div)

and our Australian Model Railway Association.

Our stand was 92' x 16' with four operating layouts; two built by our Victorian branch, one in '0' gauge - 36' x 12' with a 12' x 8' 16.5mm two level set-up at a higher level inside this again. The '0' gauge layout was 3 rail on brass '702' track, whilst one 16mm track was 3 rail and the second 2 rail. Both hand-built and commercial rolling stock was run on both gauges.

Two 10' x 4' 16.5mm commercial layouts were operated, one at either end of the stand - Ray Pearson with a completely Triang Up-and-Down mainline loop display which ran faultlessly and speaks well of this reasonably priced plastic system (No, we own no shares in it) and at the other end Cyril Noisette using Hornby Dublo and Marklin units with equal success, so that the crowd, often 6-deep, could watch an operating layout from any point of the long stand.

We wish to acknowledge our own members, both Victorian and Interstate who supplied the following equipment:

Harry Norman - 10 building structures, dozens of telegraph poles for '0'.

Alan Houston - 9 - "I", 1 - "NN", 1 - "QR" trucks, 1 - "Shell Tanker", 1 - "T" and 1 - "EE" vans in "HO".
Mayer Levy - 2 fully detailed "I" trucks in "O"
Cliff Richardson - 1 caboose and 1 coke car in "O"
Bryan McClure - 1 Plinker factory
Roy Mennie - 1 - 0-4-0 switcher, 1 - 0-6-0 tank, 1 4-4-2 loco, 1 - boxcar, 1 - bridge "O"
Queens. branch per Dr. S. Suggitt - 1 - 4-8-2 2-8-4 Garratt, with 11 freight vehicles in 3/16" scale on 16.5mm track, ie. $Sn3\frac{1}{2}$.
Nev Levin - 10 colour light signals with relays and rectifier unit for both "O" and 16.5mm.

(Country members Don Knox of Truganina, and David Axup of Rye, also assisted with the display of Models.)

Graham Watsford & Phil A'Vard - "HO" Layout swithwork.
Bob Lamble - Narrow gauge train, narrow gauge loco with two cars to run on 16.5mm.
Ian Weickhardt - Diesel, C36 loco, 1102 electric loco in "O"
Bob Smith - 1 - 4-6-4, 2 4-6-2 locos, 1 - 2unit D.E. loco, 3 pass. cars, 12 freight cars in commercial "S" gauge.
Stan Martin - 1 - 4-6-2, 1 - 0-6-2 locos, 4 pass. cars and 9 goods trucks in Hornby Dublo
Ern Mainka - 1 - "R", 1 - "A2" locos, 3 "W" cars in "O"
Dick Gutteridge - 2 - flat cars, 1 - tank car in "O"
Victorian Branch - "O" gauge group, 1 - "B" class DE loco, 7 trucks and vans in "O"
Dick Gutteridge - 1 - narrow gauge loco, 4 narrow gauge cars - 16.5mm
Geoff Lormer - 13 freight trucks, 1 - "Z" van in "O"
Tim Dunlop - 1 - 40 class diesel, 4 - bogie freight cars in 16.5mm
Jack May - 4 - "W" cars in "O"
The Model Dockyard - Two static displays, one each in "O" and "HO" of Tenshodo models in the main.

We also extend our thanks for valued assistance to:
Mr. Markby of Sound Reprod. Divn. of Philips Electrical Industries for the public address system.
Oliver J. Nilsen for Spotlights.
Phil A'Vard for the backlighting set-up.
Alan Houston for the design.
Herb Tisher for the erection of the stand and of the motorizing of the Wheel-on-Rail emblem.
Harry Norman for the imitation grass mats on the floors.
Stan Crooks for transportation of the stand.
Alan O'Brien for storing the stand after the Exhibition. Alan also brought in a mass of "O" gauge equipment consisting of NSWGR refrigerator vans, Ferris pass. cars and a Lionel loco to haul the lot.

We always expect to enroll new members as a result of these public displays, and this occasion proved no exception -- 33 new members joining as a direct result of our stand as an attraction and our members as salesmen for the hobby.

There was a very good roll-up of members to finish off the stand after its initial erection, and to man it during the run of the Exhibition. Ralph Dodson once again proving our mainstay during the day, the really difficult time owing to everyone being at work. We do apologize however, to a member who built a diorama in a case for display, but owing to the very nature of the exhibit and the construction of the stand itself it was found impossible to mount or support the case much to everyone's regret. Phil Ellis had done an excellent job on this diorama and we do hope he was no more disappointed than we were not to be able to make use of his handiwork.

To all who helped in no matter what capacity, great or small, the Committee wishes this acknowledgement to be accepted by all as a full measure of gratitude in yet another most successful Exhibition.

Page 122.

CAIRNS MODEL RAILWAY EXHIBITION. By GEORGE GILMORE.

For years the task of finding our share of the wherewithall to support the War Veteran's Home at Caboolture has been the major worry of the Far Northern District Council of our league. This year, owing to a bright suggestion by one of our Council members, a fine War Museum exhibit at the Cairns Show resulted.

During a conversation at our sub-branch one member who had happened to have seen my little trains, suggested that a Model Railway layout might be an attraction and net a few pounds.

As there were only 11 weeks to zero hour, the proposal seemed a formidable one. However, I was able to gather around me three other "Little Trains" enthusiasts and a plan and scale model were produced. It was not intended and indeed the short time available precluded any thought of it, to prepare a complicated Model Railway system. It was thought that the simpler the better.

Therefore, the foundation was made of 6 x 1 planks in the form of an open framework and as the layout was to be 30' long by 11'9" wide it was necessary for many reasons to make it in only 5 - 6' sections. This method allowed us to build the whole layout section by section under my house, which in common with most Queensland homes is built on stilts.

The first section being completed to plan, that is the double track at an elevation of 9" from the top of the base structure and the single track 5" higher still.

The second section was then bolted to the first and the track laid. First section being then laid aside and the t third joined to the second and so on. 702 Section was used throughout and some 400' of this was used resulting in about 200' of track. The sleepers $2\frac{1}{4}$ x 7/32 x $\frac{1}{4}$ were nailed to $1\frac{3}{8}$ x $\frac{1}{4}$ maple battens on edge in pairs which were curved to track design and maintained in curve shape by the use of 1" spacers and wood screws. The uprights supporting the track from the base structure were suitably cut at their tops to maintain the curve in the back battens and wood screwed into position. The mean radius of the double track is 4'6" and the single 3'6".

After the track had all been laid we obtained the use of a large room, part of an army igloo in fact,- and here the whole layout was assembled for track adjustments and the scenery made. As you may see from the photograph it was intended to portray a country scene with trains running through it. Sizal craft was extensively used, the principal snag being that as the layout was in sections the joint faces for the hills and valleys had to be similar which meant a great deal more work. Sizal craft proved an almost ideal medium for scenery as it could be pushed about and to would retain the desired shape. Edges were stapled together. For the hills and valleys the sizal craft was given a coat of light green paint then a coat of Davis Liquid glue and sawdust suitably dyed was thrown onto the wet glue. To relieve the green some sawdust was dyed a light brown and then thrown on the green. This resulted in remarkably lifelike grass.

For the cuttings Davis Liquid glue was brushed onto the vertical and near vertical surfaces then a coating of pipe clay to give a rough surface and finally some red earth was thrown on and a certain amount of the same stuff allowed to continue to the track level thus similating small earth falls.

Back Drop.

This was painted as you will see on 6x3 three-ply panels and as all hills and valleys were arranged to show a skyline that is terminated some 6" from the back drop, the effect was very realistic indeed.

Trains.

My Sunlander was naturally the principal attraction comprising as it did an English Electric Locomotive, a power car, seven coaches, a baggage and a guards van altogether some 15' long. These vehicles were made from plans supplied to me from the Queensland Railways and were faithfully followed.

The loco was driven by a Westinghouse motor with reversingcontrol gear supplied by 'O' Gauge House, and drove the rear bogie through a universal shaft and a mecano chain and sprockets. Here I must say that I have found mecano chain and sprockets a godsend and they run very quietly indeed. The front bogie was driven by a further universal shaft from the rear bogie. Fleet worms and wheels were used to drive the flanged wheels.

Mixed Goods.
This was very mixed indeed. Drawn by an "O" gauge C.38, followed by a Fleet Refrig. Van then 5 Yankee box cars, followed by 3 pullmans I made before the last war.

Cattle Train.
This was drawn by a freelance 2-6-2 which I originally designed as a shunter. Had intended to use my old C36 but time beat me. The 2-6-2 was followed by 6 K waggons which are cattle waggons and the Yankee Caboose brought up the rear. This train simply meandered through the countryside occasionally stopping to pick up some bulls for the meatworks.

Each train ran on its own track entirely unconnected with any other. I took a leaf out of the Victorian Model Railways book in that respect in their display at the Melbourne Town Hall during Railway Centenary week last year.

We estimate that the Sunlander and the mixed goods during 30 hours of running each covered an actual distance of some 15 miles while the cattle train managed about 8 miles. No mechanical trouble of any kind was experienced and the only electrical trouble was due to the stiffness of the wires connecting the engineand tender of the C38. To our surprise and delight when we counted our takings after 3 show days we found £405 in the bag. I for one never considered that these little trains would prove so popular. I do agree that our show was only for the unsophisticated, no doubt people railway minded could have found many faults in it, witness the toy signal which to my annoyance frequently appeared on the layout, wrong way round too. In conclusion, I suppose it is only fair to tell you that my system is "O" & 2 rail.

NARROW GAUGE MODELLING STANDARDS.

By S. SUGGITT, E. SNOWDEN, and G. HAROLD.

In 1953 a group of modellers in Queensland became interested in the problem of modelling narrow gauge prototypes, with special reference to the construction of models of the rolling stock found on their own state railways.

At first, this seemed a difficult task, specially as it was considered essential that components for the assembly of the models should be readily available from existing commercial sources, and also that recognised existing modelling gauges should be used.

Most of the modellers concerned had already constructed lay-outs using 16.5 mm. gauge track, which had been intended for Standard Gauge (4'8½") conditions. The idea of constructing models in a scale of 3/16" to the foot for use on this track proved to be fruitful, since for a prototype gauge of 3'6" this scale resulted in a track gauge of 16.67mm. "Sn3½" was a name given tentatively to this gauge and scale combination, using American nomenclature.

At the same time it was hoped that a set of standards could also be devised to cover the needs of modellers whose preference lay with other model track gauges. It was found that a 7/8" track gauge ("S") was suitable for modelling to a scale of ¼" to the foot (On3½), and that a scale of ⅜" to the foot provided a sufficiently close approximation for models designed to run on 1¼"("O" Gauge) track. Finally, since there is a growing number of modellers interested in 12mm. ("TT") gauge, it was decided to include their requirments for narrow gauge work in the same set of standards; a scale of 3.5mm. to the foot was found suitable for 12mm. track .

18mm. ("EM") and 19mm. (American "00") gauges are not considered here as they represent attempts at arriving at a more realistic modelling gauge for use with 4mm. scale for Standard Gauge conditions. Track and rolling stock compnnents for use with these gauges are not readily available in Australia; It is not therefore considered likely that they will become popular at any time, for narrow gauge modelling.

An early attempt at formulating standards for narrow gauge is described in the Model Railway News of Jan. 1941 - Volume 17 P 5. Here "ILlyrian" describes the use of 5/8" (equals 16.8mm.) gauge track for modelling Metre Gauge prototypes, using a scale of 3/16" to the foot. In 1953 N. G. Jackson of Johannesburg described in a personal communication how he had been using a scale of 4.75 mm. to the foot with 16.5mm. gauge track in order to model South African Railways prototypes. This scale is almost exactly 3/16" to the foot, which has a metrical equivalent of 4.76mm.

Prototype railways using 3'6" gauge are found in Queens-land, Western Australia, Tasmania, New Zealand, South africa, Rhodesia, Nyasaland, The Sudan, Portuguese East & West Africa, The Belgian Congo, Newfoundland and Japan. There are in addition many countries which use the Metre Gauge (39.4"); these include Switzerland and France (subsidiary lines), southern Greece, Syria, Jordan, the French African Colonies, Abyssinia, East Africa, southern Iraq, Burma, Siam, Indo-China, the Federated Malay States, subsidiary lines in India and China, parts of Argentina and Chile, and most of Brazil.

In the tables which follow 3.6" gauge and Metre gauge will be considered separately. Metrical equivalents used are 25.4mm. - 1 inch and 1 Metre - 39.4".

TABLE OF GAUGES AND SCALES AS APPLIED TO 3'6"

PROTOTYPE TRACK GAUGE.

Existing Commercial Track Gauge.	Prototype Track Gauge.	Scale Resulting.	Nearest Convenient Modelling Scale.	Approximate Error in Scale.
1. 12mm (TT)	3'6"	3.43mm	3.5mm	2% increase.
2. 16.5mm (HO)(OO)	3'6"	4.71mm	3/16" (4.76mm)	1% increase.
3. 7/8" (S)	3'6"	¼"	"¼"	nil.
4. 1¼" (O)	3'6"	0.357"	⅜" (0.375")	5% increase.

THE SAME TABLE AS APPLIED TO METRE GAUGE

PROTOTYPE TRACK (39.4").

Existing Commercial Track Gauge.	Prototype Track Gauge.	Scale Resulting.	Nearest Convenient Modelling Scale.	Approximate Error in Scale.
1. 12mm (TT)	39.4"	3.65mm	(a) 3.5mm (b) 3/20" (3.81mm) (c) 4.0mm	4% decrease 5% increase. 9% increase.
2. 16.5mm (HO)(OO)	39.4"	5.025mm	(a) 3/16" (4.76mm) (b) 5.0mm	5% decrease. ½% decrease.
3. 7/8" (S)	39.4"	0.266"	(a) ¼" (0.25") (b) 7.0mm (0.276")	6% decrease. 4% increase.
4. 1¼" (O)	39.4"	0.381"	(A) 3/8" (0.375") (b) 10.mm (0.394")	2% decrease. 3% increase.

Page 128.

When modelling in any scale, unless the radius of the curves used resemble that used under prototype conditions, a definite advantage is gained if the scale is increased a little in relation to the gauge. Reference to the table for the 3'6" gauge scales shows that in all cases but one this occurs. Decreasing the scale is equivalent to a relative widening of the gauge. If this occurs for a narrow gauge prototype model it is necessary to increase the distance from the centre , of the cylinders. This in turn makes it necessary to increase the distance from the centre of all structures outside the motion, including the footplate. The result is a model whose width is out of propportion to its length and height. It is only logical therefore to increase the length and height correspondingly; in other words, to increase the scale. From this it will be seen that while the standards adopted for 3'6" Gauge modelling are suitable for their purpose, the same set of standards does not so well apply to Metre Gauge modelling conditions. A small increase in scale is desirable and for this a different set of standards is required. This point is not likely to be of great importance as the number of modellers engaged in Metre Gauge modelling in Australia is likely to be few.

The table which follows provides a small increase in scale in all cases but one. The use of 5.0mm. scale on 16.5mm. track is so nearly exact that the ½% decrease is not considered significant.

TABLE OF SCALES SUGGESTED FOR MODELLING IN METRE GAUGE.

Model Track Gauge.	Convenient Scale.	Error.
12mm	3/20"	5% increase.
16.5mm	5mm	½% decrease.
7/8"	7mm	4% increase.
1¼"	10mm	3% increase .

TABLE OF PROPORTIONS.

3.5mm Scale - 1:87.1
3/20" " - 1:80
4.0mm " - 1:76.2
3/16" " - 1:64
5.0mm " - 1:60.9
$\frac{1}{4}$" Scale - 1:48
7.0mm " - 1:43.6
$\frac{3}{8}$" " - 1:32
10.0mm " - 1:30.5

TABLE OF PROTOTYPE TRACK GAUGES

USING THE SCALES AND GAUGES ALREADY CONSIDERED.

A. For 3'6" Gauge.

Scale.	Model Gauge	Prototype Gauge obtained
3.5mm	12mm	3'5$\frac{1}{8}$"
3/16"	16.5mm	3'55/8"
$\frac{1}{4}$"	7/8"	3'6"
$\frac{3}{8}$"	1$\frac{1}{4}$"	3'4"

B. For Metre Gauge.

Scale.	Model Gauge.	Prototype Gauge obtained.
3/20"	12mm	37.8" - 0.959 Metres.
5mm	16.5mm	39.6" - 1.005 "
7mm	7/8"	38.1" - 0.967 "
10mm	1$\frac{1}{4}$"	38.1" - 0.967 "

A SURVEY OF GOODS WAGGONS USED ON THE QUEENSLAND GOVERNMENT RAILWAYS. By DR. A. HARROLD.

Part 1.

This survey is not intended to be complete, but it is designed to provide a working list of the goods waggons to be found on the Queensland Government Railways sufficiently comprehensive for the needs of the average model railway enthusiast. It is intended specially to help the modeller who desires to construct a model of any particular type of waggon but who may not have access to a blueprint or drawing of the vehicle. Leading dimensions will therefore be given for all types of goods rolling stock commonly encountered, and also for some other types of particular interest. All types for which photographs are available will be indicated with an asterisk. From photographs modellers can see the nature and the position of fittings and can derive other information for which a drawing is otherwise needed.

It should be noted that lengths of vehicles refer to lengths as measured over the headstocks; in all cases 3'5" should be added to give the lengths over the buffers. Buffer height is now 2'8", and has been so since about 1914; Until about 1909 it was 2'6", and in the intervening years a height of 2'7½" was tried. Wheel diameters used are 2'1", 2'1½", 2'2" and 2'9½".

Steel bogie stock is usually fitted with Bettendorf bogies, using 2'2" wheels, but diamond frame bogies may be used on some types. For timber bogie stock arch-bar bogie sides are most commonly seen, although diamond frames also occur. All stock is fitted with continuous brakes and screw couplings are used throughout. Hand brake levers occur on one side only of these vehicles.

The introduction of steel rolling stock of standard types now appears to be the policy of the Department. During the year 1953-54 only one type of wooden waggon -ALJ- representing a total of 50 vans was ordered or supplied, while orders for steel stock for the six types -HJS-FJS-

VJM - WW - PJW - WH - represented 4,000 wagons.

Variations in the wagons of the steel types are few, but most types of the older timber stock contain innumerable varieties involving length, height, capacity, wheel size and other features. In this survey variations will be listed only if they are considered to be of sufficient significance from the modeller's point of view. Many variations are unofficial; amongst these is the use of disc wheels and spoked wheels together on the same wagon or bogie, or, more surprisingly, the use of wheels of mixed sizes on one bogie.

The shorter four-wheeled wagons have fixed wheel bases, but the longer ones, in order to allow them to negotiate curves of comparatively sharp radius more easily, are equipped with Grover's bogies. These consist of mounted single pairs of wheels with each mounting pivoted to allow a swinging movement, while each bogie is fixed to the other by diagonally crossing tie-rods. On curved track this allows each pair of wheels to swing in the correct direction for the curve. A comparable device, known as Cleminson's bogies was used on the old six-wheeled stock. These six-wheelers are now all extinct.

Each basic type of wagon or van is designated by a letter of the alphabet, and although some classes no longer exist, the original plan of lettering still persists. Additional letters are placed after the basic letters where necessary to provide further differentiation, whether of function or of origin. In order to make this clear a list of the basic types appears below. This will be followed by a list of some of the more commonly used additional letters with their meanings.

Service wagons are not included in the above classification and will not be included in this survey. Certain letters have been re-allocated as indicated. Goods wagons, such as CJFP and WW, which are suitable for passenger trains, carry a red diamond superimposed on a white square prominently displayed on each side to indicate this fact.

Basic Letter.	Type of Wagon.	Remarks.
A	4-wheeled Box Van	
B	6 " " "	B now obsolete.
C	8 " " "	
D	4 " High-sided Goods	
E	6 " " " "	E now obsolete.
F	4 " Low-sided "	
G	6 " " " "	G now obsolete.
H	8 " " " "	
I	4 " Cattle Wagon	
J	6 " " "	J now obsolete.
K	8 " " "	
L	4 " Sheep "	
M	6 " " "	M now obsolete.
N	8 " " "	
O	6 " Platform Wagon	O now obsolete.
P	8 " " "	
Q	4 " Timber "	
R	6 " " "	R now obsolete.
S	8 " " "	
T	4 " Ballast "	
U	8 " " "	
V	(4) " Hopper "	
	(8) " " "	
W	4 " Rail "	W now obsolete.
X	6 " " "	X now obsolete.
Y	8 " " "	Y now obsolete.
Z	4 " Horse Box	

These letters have been re-allocated :

O	8-wheeled Oil Tank Wagon – most of these are in private ownership.	
W	8 " Water Wagon	
W	8 " Platform Wagon	
Y	8 " Covered Goods Wagon	
Z	4 " Runner (Flat-topped Wagon).	

It is usual for the basic letter to be placed first and for any descriptive letters to follow, but occasionally, when the descriptive letter indicates conversion from one type to another, it may precede the basic letter, as with the cattle wagon HK.

Descriptive Letter.	Meaning.	Examples.
G	Fitted with Grovers Bogies	AG ALG FG
L	Fitted with Louvres	ALG ALJ CLF
J	Fitted with Large Journals	CJF HJ SJ
C	Fitted with shelves for Cheese	ALGC
	Used to carry Cement	FFC VJC
	Used for Cane Traffic	FC VC
B	Insulated for Butter	AB CMB
F	Used to carry Fruit	ABGF CLF
	Used for Fish Traffic	CFI
M	Insulated for Meat	CMI CMIS
	Used to carry Motor vehicles	FM FGM MTW
S	Having a Steel Body	HJS FJS VTS CMIS
P	Suitable for Passenger Traffic	CJFP
	Used for Pigs	FP
B	Having a Guard's Brake Comp't	CB CHB KKB

Part 2 of this survey, which will consist of a descriptive list of four-wheeled and eight-wheeled box Vans, open wagons, and ballast wagons, namely classes A, C, D, F, H, T and U, will appear in a later issue of the Journal.